GORGOL, Vaclav, inz.

Enterprise and construction site laboratories are tools for higher quality of work in construction industry. Inz stavby 9 no.12:442-445 D '61.

1. Stavby silnic a zeleznic, n.p., Praha.

GORGOL, Vaclav, ing.; VRANA, Josef, inz.

Repairing the fissures in reinforced concrete constructions by epoxy. Inz stavby no.12:458-459 D '62.

1. Stavby silnic a zeleznic, n.p., Praha.

GORGOL, Vaclav, inz.; SULA, Bozetech, inz., dr.

Results of comparison test of pavement concretes. Inz stavby 10 no.12:469-470 D '62.

1. Stavby silnic a zeleznic, n.p., Praha (for Gorgol).

GORGOL, V., inz.

The largest reinforced concrete arch bridge in the world will be finished soon. Inz stavby 11 no.3:118-119 Mr '63.

GORGOL, Vaclav, inz.

Bridge construction by using Preflex girders. Inz stavby 11 no.7:279-280 Jl '63.

GORGOL, Vaclav, inz.

Fixing of bridge girders into torsion proof cross-ties. Inz stavby 11 no.9:353-354 S '63.

GORGOL, Vaclav, inz.; POSEJPAL, Miroslav

Use of epoxy resins in concrete constructions. Inz stavby 11 no.11:423-426 N'63.

1. Stavby silnic a zeleznic, n.l., Praha.

GORGOL, Vaclav, inz.; KADECKA, Slavka,; POSPISIL, Miroslav.

Sealing cracks in concrete structures by injecting epoxy resins. Poz stavby 11 no.11:608-609 '63.

1. Stavby silnic a zeleznic, Praha.

GOEGOL, Vaclav, inz.

Improvement of the cohesion between reinforcement and concrete and the protection of reinforcement from corrosion. Pcz stavby 12 no. 1:40-42 '64.

1. Stavba silnic a zeleznic, Praha.

GORGOL, Vaclav, inz.

Construction of a reinforced concrete bridge with greatest span width. Inz stavby 12 no. 3:127 Mr '64.

GORGOL, Vaclav, inz.

New units of measurement. Pos stavby 12 no.23[illegible]94 '64

GORGOL, Vaclav, inz.; SKALA, Ladislav, inz.

Packing of tanks by epoxy resins. Poz stavby 12 no. 3: 128 '64.

1. Stavby silnic a zeleznic, Prague (for Gorgol).
2. Konstruktiva, Prague (for Skala).

GORGOL, Vaclav, inz.

Tunnel insulation by laminate spraying. Inz stavby 12 no.5:229-230 My '64.

POLAND/Physical Chemistry. Kinetics. Combustion. Explosions. Topochemistry. Catalysis. B

Abs Jour: Ref. Zhur. - Khimiya, No. 4, 1959, 11110

Authors : Krause A., Gleinert H., Gorgolewski L., Krezewinski Z.

Inst : Not given

Title : Amphoteric Mixed Hydroxides as Models of Peroxidases of an Inorganic Nature.

Orig Pub: Roczn. chem., 1958, 32, No. 1, 139-142

Abstract: The mixed hydroxides, into the composition of which, together with the ions of Fe^{2+}, there enter the ions of Cu^{2+} and Co^{2+}, Cu^{2+} and Ca^{2+} or Cu^{2+}, Mn^{2+} and Ni^{2+}, reveal an important catalytic activity (CA) at the oxidation of HCOOH by hydrogen peroxide at 37°. The CA of mixed hydroxides is greater than the CA of the separate components, entering into its composition.

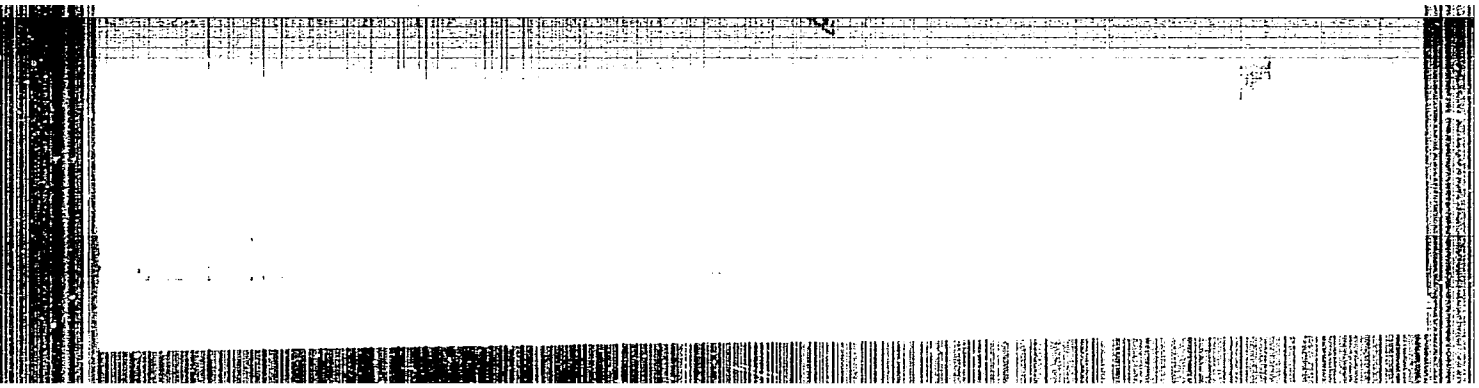
Card 1/2

POLAND/Physical Chemistry. Kinetics. Combustion. Explosions. Topochemistry. Catalysis. B

Abs Jour: Ref. Zhur. - Khimiya, No. 4, 1959, 11110

Abstract: The greatest CA for each of studied systems possess mixed ionic hydroxides in the proportion of the ions: Fe: Cu: Co = 1:0.5:1, Fe:Cu:Ca= 1:1:2 and Fe:Cu:Mn:Ni = 1:1:0.5:0.5.--M. Sakharov

Card 2/2



APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000616210014-0"

40247

S/169/62/000/007/127/149
D228/D307

9,1700

AUTHORS: Gorgolewski, S., Hanasz, J., Iwaniszewski, H. and Turio, Z.

TITLE: Log-periodic aerial interferometer for radioastronomy

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 4, abstract 7G19 (Bull. Acad. polon. sci., Sér. sci. math., astron. et phys., 9, no. 9, 1961, 689-691)

TEXT: A report is given about the creation of an interferometer (base of 26 m) with log-periodic aerials having the parameters: $\alpha = 60^{\circ}$, $\gamma = 37^{\circ}$, and $\tau = 0.6$. These ensure that the gain of the aerials is about 6 db relative to the dipole in the band 100 - 1000 Mc/s when the width of the radiation pattern of each of the aerials os 100°. The advantages of aerials with a log-periodic structure are pointed out. [Abstracter's note: Complete translation.]

Card 1/1

GORGOLEWSKI, S.; HANASZ, J.; IWANISZEWSKI, H.; TURLO, Z.

Radio observations of the solar eclipse of February 15, 1961 on wave lengths 236 cm. and 91,7 cm. Postepy astronom 10 no.2:133-135 '62.

GORGOLEWSKI, S.; HANASZ, J.; IWANISZEWSKI, H.; TURLO, Z.

The triple antenna interference system of the Astronomical Observatory of the N.Copernicus University in Torun for wave length 9,32 m. Postepy astronom 10 no.2:136-137 '62.

GORGOLEWSKI, S.; HANASZ, J.; IWANISZEWSKI, H.; TURLO, Z.

Radio observations of the sun with waves of the frequency 127 Mc/s in the year 1959. Postepy astronom 10 no.2:137-141 '62.

GORGOLEWSKI, S.; HANASZ, J.; IWANISZEWSKI, H.; TURLO, Z.

Occultation of the radio source Taurus A by the solar corona in the year 1961. Postepy astronom 10 no.2:141-143 '62.

S/274/63/000/002/004/019
A055/A126

AUTHORS: Gorgolewski, S., Hanasz, J., Iwaniszewski, H., Turło, Z.

TITLE: Logarithmic-periodical antennas

PERIODICAL: Referativnyy zhurnal, Radiotekhnika i Elektrosvyaz', no. 2, 1963, 35, abstract 2A211 (Postępy astron., 1962, v. 10, no. 2, 143 - 145; Polish)

TEXT: The application of logarithmic-periodical antennas to an interferometer consisting of two antennas in the range of from 100 to 1,000 Mc with a 26-m base is described. The standing wave ratio is equal to 1.62 for 127 Mc and to 1.16 for 127 Mc. The advantages of the interferometer in the observation of the Sun at a 100° -angle of visibility are pointed out. There are 2 references.

I.D.

[Abstracter's note: Complete translation]

Card 1/1

GORGOLEWSKI, S.; HANASZ, J.; IWANISZEWSKI, H.; TURLO, Z.

The 127 Mc/s solar radio emission in the year 1959. Acta astronom 12 no.1:75-83 '62.

1. Astronomical Observatory, Nicholas Copernicus University, Torun, and Institute of Astronomy of the Polish Academy of Sciences, Torun.

GORGOLEWSKI, S.; HANASZ, J.; IWANISZEWSKI, H.; TURLO, Z.

Interferometric investigations of the outer solar corona at the 32.1 Mc/s band. Acta astronom 12 no.4:251-260 '62.

1. Nicholas Copernicus University, Astronomical Observatory, Torun, and Polish Academy of Sciences, Astronomical Institute, Astrophysics Laboratory, Torun.

AC NR: AP6018046 SOURCE CODE: PO/0009/65/015/003/0261/0271 43 39 B

AUTHOR: Gorgolewski, S.

ORG: Astronomical Observatory of the N. Copernicus University, Torun, Poland

TITLE: Recent radio observations of the outer solar corona

SOURCE: Acta astronomica, v. 15, no. 3, 261-271

TOPIC TAGS: radio astronomy, solar corona, radio wave

ABSTRACT: New observatorial data concerning Tau A occultations by the outer solar corona are presented. New increases in the flux of this radio source have been observed. An attempt is made to explain these increases by a simple mechanism consisting of the reflection of radio waves from electron irregularities in the outer corona. An analysis shows that such a reflection can be caused by plasma tubes spanning the distance from Venus and Mercury to the Sun. In June 1962, three basic interferometric observations were carried out to determine the directions of alignment of the scattering coronal electron

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ACC NR: AP6018046 4

Irregularities. Slee's observations in 1960 produced some interesting results on the shape and spatial orientation of the outer solar corona. The author thanks Professor Dr. W. Iwanowska for her constant interest and support in the organization of this program of Tau A occultations, and J. Hanasz, Z. Turlo, and H. Iwaniszewski for their help in the constructional, observational, and data reduction work. Orig. art. has: 6 figures and 1 table. [Based on author's abstract] [NT]

SUB CODE: 03/ SUBM DATE: 20Feb65/ ORIG REF: 006/ SOV REF: 001/ OTH REF: 004/

Card 2/2

GORGOLEWSKI, S.

Three-channel correlation receiver system. Biul astr Cz 14 no.3:110-111 '63.

1. Astronomical Observatory, Torun.

GORGOLEWSKI, S.

Results of observations of the occultation of the Taurus A source through the solar corona during the years 1962 and 1963. Postepy astronom 12 no.2:115-116 '64.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000616210014-0"

L 44083-66

ACC NR: AT6020513 SOURCE CODE: CZ/2514/65/000/051/0141/0144

44
B+1

AUTHOR: Turlo, Z.; Gorgolewski, S.; Hanasz, J.

ORG: Astronomical Observatory of the Copernicus University, Torun

TITLE: Shape and orientation of the outer solar corona

SOURCE: Ceskoslovenska akademie ved. Astronomicky ustav. Publikace, no. 51, 1965. 3rd Consultation on Solar Physics and Hydromagnetics, Tatranska Lomnica, 13-16 October 1964, 141-144

TOPIC TAGS: solar activity, solar corona, galactic magnetic field, solar apex, gas, ~~interstellar gas~~, radio source, solar spectrum, interstellar matter ~~particle, red corona line, green corona line~~

ABSTRACT: On the basis of previous works, the author considers factors liable to influence the extension and asymmetry of the outer corona in an effort to find out if these phenomena are real and enduring. They include solar activity, solar movement toward the apex, and the galactic magnetic field. It is found that solar activity

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L 44083-66

ACC NR: AT6020513

is not the main factor causing asymmetrical occultations. The direction of the solar apex is found to be rather similar to that of the maximum asymmetry of the solar corona. Convergence of these directions suggests that coronal asymmetry is caused by dynamic pressure of interstellar gas. Interaction between coronal and interstellar particles occurs in occultation regions. This effect is difficult to estimate quantitatively because of the numerous assumptions that have to be made. The direction of the galactic magnetic field is determined, and this determination agrees with the direction of the polarization conversion point. It is nearly perpendicular to that of the greatest extension of the outer corona. The influence of this field on the outer solar corona is assumed to be negligible. Conclusions on the shape of the outer corona are not completely clear, but occultations of many radio sources appear to constitute a very promising method of studying the shape. More occultation observations are needed to ascertain whether the dynamic pressure of interstellar gas and of sporadic solar activity are indeed the main factors influencing the shape of the outer corona. The noticeable annual asymmetry of intensities of the red and green coronal lines may be related to the asymmetry of the outer corona observed

Card 2/3

L 44083-66

ACC NR: AT6020513

during occultation of radio sources. In the discussion following the article, the author states that the values for the distance from the sun where interstellar particles are stopped in the corona are computed for the temperature $(T_o) = 10^6$ K. Orig. art. has: 2 figures, 6 formulas, and 2 tables. [GC]

SUB CODE: 03 SUBM DATE: none/ SOV REF: 001/ OTH REF: 006/

Card 3/3

L 46806-66

ACC NR: AT6020512 SOURCE CODE: CZ/2514/65/000/051/0137/0140

AUTHOR: Gorgolewski, S.

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B+1

ORG: Astronomical Observatory of N. Copernicus University, Torun

TITLE: The state of the outer solar corona between 1961 and 1964

SOURCE: Ceskoslovenska akademie ved. Astronomicky ustav. Publikace, no. 51, 1965. 3rd Consultation on Solar Physics and Hydromagnetics, Tatranska Lomnica, 13-16 October 1964, 137-140

TOPIC TAGS: solar corona, sun, solar activity, interferometer, electron density, solar magnetic field, coronal scattering, solar flux, Taurus A star

ABSTRACT: On the basis of previous works on Taurus A occultation curves, the author shows the relation between the angle of scattering and the apparent distance of Taurus A from the sun as expressed in $R/R_\odot$ (distance/sun radii) units. The dependence on time is shown to be derived from the dependence of the coronal scatter-

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L 45506-65

ACC NR: AT6020512

ing at the E-W base line on the distance from the sun. It is found that the changes in solar activity and angle of scattering are well correlated at distances ranging from 20—30 $R_\odot$. No significant dependence on solar activity is found at greater distances. The variation of scattering observed at 20 to 30 $R_\odot$ follows closely the 127 Mcps monthly solar flux, a result which is in general accord with other observations [Hewish, A., I. A. U. Symp. No. 9, 268, 1959]. Several cases of considerable increases of the calibrated Tau A fringe amplitude have been recorded in four years and are included, together with other observations [Vitkevich, V. V. Proc. of the 5th Conf. on Cosm. Ques. 203, 1956] in a table appearing in the original article; they are explained by the author. It is possible to obtain low-angle reflections at frequencies ranging from tens to more than 100 Mcps, even for electron densities as low as hundreds of thousands of electrons per cm^3. These values come close to the estimated electron densities as given elsewhere [Allen, C. W., I. A. U. Symp. No. 16, 1, 1963] for such coronal regions. In the discussion following the article, the author states that, although polarization is observed, its presence cannot be affirmed because it is a single component. Polarization measurements would make it possible to distinguish between the different mechanisms proposed to explain the

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L 46806-66
ACC NR: AT6020512

phenomena observed. The author adds that three basic interferomatic observations made during 1958, 1959, and 1962 have shown the solar magnetic field to be predominantly radial at distances from $\sim$10—50 $R_\odot$. Orig. art. has: 3 figures and 1 table. [GC]

SUB CODE: 03, 20/ SUBM DATE: none/ OTH REF: 007/

Card 3/3

GORGOLYUK, Yu.A.

On the methods for the laboratory diagnosis of tinea pedis. Leb.delo 3 no.3:26-28 My-Je '57. (MLRA 10:9)

1. Iz mikologicheskogo otdela (zav. - prof. A.M.Ariyevich) TSentral'nogo kozhno-venerologicheskogo instituta Ministerstva zdravookhraneniya SSSR.
(SKIN--DISEASES) (DERMATOMYCOSIS)

2947. DIAGNOSTIC EVALUATION OF MOSAIC FUNGUS IN DERMATOMYCOSES OF FEET - Gorgolyuk Yu. A. - VESTN. DERM. I VENER. 1958, 32/6 (26-29) Tables 1 Illus. 1

The article deals with a study of mosaic fungus on 1,110 persons. 236 of them were affected with various dermatomycoses, predominantly with epidermophytosis of the feet; the rest of them were healthy persons. In all of them mosaic fungus was found microscopically. Cultivation on Sabouraud's medium did not yield any positive result. Mosaic fungus in of no clinical importance. Kraus - Hradec Králové

AM5011175

Maksimov, Matvey Vasil'yevich; Gorgonov, Gennadiy Ivanovich

Radio control of rockets (Radioupravleniye raketami), Moscow, Izd-vo "Sovetskoye radio", 1964, 643 p. illus., biblio. Errata slip inserted. 1,000 copies printed.

TOPIC TAGS: missile guidance equipment, automatic control system, [illegible] device, radio command system, aircraft autopilot, radio [illegible], [illegible] software system, electronic [illegible]

PURPOSE AND COVERAGE: The book sets forth the principles of [illegible] and theoretical elements of radio control systems [illegible] and engineering components of [illegible] analysis of these components shows that [illegible] [illegible] of radio control systems which takes various [illegible] The book is intended for radio engineers and radio enthusiasts, students in universities. It can also be used by people who are [illegible] radio engineering but are interested in radio control [illegible]

Card 1/3

L 61831-65

AM5012955

TABLE OF CONTENTS (abridged):

Card 2/3

AM5012;5

OTHER: 019

Card 3/3

PODLOVCHENKO, B.I.; GORGONOVA, Ye.P.

Composition of products chemisorbed on the surface of platinized platinum in methyl alcohol solution as determined by the method of charging curves. Dokl. AN SSSR 156 no. 3:673-676 '64.
(MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom A.N.Frumkinym.

PODLOVCHENKO, B.I.; PETRII, O.A.; [illegible]

Potentials of a platinized platinum electrode in a steady state in methanol solutions. Elektrokhimiia 1 no.2:182-187 F '65. (MIRA 18:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 11121-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3002020 S/0195/63/004/003/0422/0430

AUTHOR: Gorgoraki, V. I.; Kasatkina, L. A.; Levin, V. Yu. 58 57

TITLE: Study of the effect of various lithium and gallium admixtures on the catalytic properties of zinc oxide in the homomolecular exchange of oxygen isotopes 79

SOURCE: Kinetika i kataliz, v. 4, no. 3, 1963, 422-430

TOPIC TAGS: oxygen isotope exchange, ZnO catalyst, Li, Ga, kinetics

ABSTRACT: Within a temperature range of 425-550C and oxygen pressures of 5-200 mm Hg, the authors studied the homomolecular exchange of oxygen isotopes (see enclosure) in the presence of ZnO and ZnO to which Li sub 2 CO sub 3 (0.25, 0.5, and 0.75 atom % Li) and metallic Ga (0.25 and 0.5 atom % Ga) had been added. The activation energy for this reaction was about 40kcal/mol. It was first-order with regard to O. Addition of Li to ZnO increased the reaction rate, while addition of Ga slowed it down. There was an inverse relationship between the amount of Ga present and the reaction rate. The greatest loss of activity was found with a ZnO preparation containing 0.5 atom % Li. The electronic work functions measured for pure ZnO catalysts and those containing Li and Ga were almost identical. In an oxygen atmosphere (40 mm Hg), addition of both Li and Ga reduced the work function

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L 11121-63
ACCESSION NR: AP3002020

to values below that for pure ZnO. The authors conclude that the limiting stage is the sorption of oxygen molecules with dissociation into their atoms. A comparison is made of the physical and catalytic properties of these preparations. A possible mechanism for the effect of Li and Ga is hypothesized. Orig. art. has: 5 figures, 3 schematic diagrams, 2 tables, and 3 formulas.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Chemical Engineering Institute)

SUBMITTED: 04May62 DATE ACQ: 12Jul63 ENCL: 01

SUB CODE: OO NO REF SOV: 006 OTHER: 006

Card 2/2

GORGORAKI, V.I.; KASATKINA, L.A.

Influence of the conditions of zinc oxide preparation with indium and gallium additions and without them on the catalytic properties in the reaction of homomolecular exchange with oxygen isotopes. Kin. i kat. 4 no.4:620-624 Jl-Ag '63. (MIRA 16:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva.

ACCESSION NR: AP4008167 S/0195/63/004/006/0863/0866

AUTHOR: Gorgoraki, V. I.; Kasatkina, L. A.; Levin, V. Yu.

TITLE: Effect of additives and operating conditions on isotope exchange between oxygen and zinc oxide

SOURCE: Kinetika i kataliz, v. 4, no. 6, 1963, 863-866

TOPIC TAGS: zinc oxide, zinc oxide lithium, zinc oxide gallium, zinc oxide indium, oxygen 18, isotope exchange, homomolecular exchange, isotope exchange rate, zinc oxide calcination, lithium, gallium, indium

ABSTRACT: The effects of adding Li, Ga and In and of changing conditions of preparing the catalyst, on the kinetics of ZnO isotope exchange (O_{18}) were investigated by methods described in authors' previous work (Kinetika i kataliz 4, 422, 1963). Data obtained are compared with results of studies on homomolecular exchange by the same preparations. Increasing temperature of ZnO calcining from 850-1200C somewhat increases isotope exchange rate. Addition

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ACCESSION NR: AP4008167

of Li (0.5 + 0.75 at. %), introduced at 850C, increases the rate of the ZnO isotope exchange, the rate becoming greater than the rate of the homomolecular exchange reaction. Addition of Ga and In, introduced at 850C, decreases isotope exchange rate. Increading temperature of calcining ZnO containing 0.5% Ga from 850 - 1200C increases isotope exchange rate to the point that it equals the rate of pure ZnO calcined at 1200C. In all cases with the exception of 0.5 and 0.75 at.% Li additions, the rate of the homomolecular exchange reaction is about that of, or somewhat greater than the isotope exchange rate of ZnO; with Li the homomolecular exchange is slower. The authors consider it their obligation to thank G. K. Boreskov for discussing the material of the present work." Orig. art. has: 2 tables and 3 figures

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendelayeva (Moscow Chemical Technological Institute)

SUBMITTED: 21Jan63 DATE ACQ: 09Jan64 ENCL: 00

SUB CODE: MA NO REF SOV: 004 OTHER: 003

BORESKOV, G.K.; GORGORAKI, V.I.; KASATKINA, L.A.

Reaction involved in a homomolecular exchange of oxygen between ZnO and NiO at room temperature. Dokl. AN SSSR 150 no.3:570-573 My '63. (MIRA 16:6)

1. Moskovskiy khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva. 2. Chlen-korrespondent AN SSSR (for Boreskov).
(Oxygen) (Metallic oxides)
(Chemical reaction, Rate of)

ACCESSION NR: AP4016519 S/0195/64/005/001/0120/0127

AUTHOR: Gorgoraki, V. I.; Boreskov, G. K.; Kasatkina, L.A.; Sokolovskiy, V. D.

TITLE: Homomolecular exchange of oxygen on zinc oxide at low temperatures

SOURCE: Kinetika i kataliz, v. 5, no. 1, 1964, 120-127

TOPIC TAGS: zinc oxide, zinc oxide catalyst, homomolecular exchange, catalytic action, oxygen 16, oxygen 18

ABSTRACT: This study was prompted to determine the causes of catalytic action of ZnO. To comprehend the causes, one should understand the nature and character of bonds formed by the dissociative chemosorption of oxygen on the surface of oxides. The exchange reaction at room temperature not only affects ZnO (an n-type semiconductor), but also NiO (a p-type semiconductor). The reaction was investigated by means of homomolecular exchange of oxygen isotopes

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ACCESSION NR: AP4016519

$O_2^{16} + O_2^{18} = 2O^{16}O^{18}$ on ZnO calcined at 850C, and then rapidly cooled to 25, -63 and -194C. At the two latter temperatures the exchange rate is close to that at 425C, and the product has a stable activity. The apparent activation energy at these two temperatures is 0.18 kcal/mol. The exchange rate in the initial moment at 25C is many times greater than in the 425-500C range. In oxygen atmosphere there is a rapid deactivation (5-6 hrs) of ZnO, but deactivated ZnO can be reactivated with zinc vapor. The catalytic activity of ZnO is caused by zinc excess. This can be the internodular zinc of the surface oxide layer, i.e., Zn dissolved in ZnO or zinc formed on the surface oxide layer and adsorbed by same. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva (Moscow Chemical Engineering Institute)

SUBMITTED: 24Apr 63 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: CH NO REF SOV: 002 OTHER: 005

Card 2/2

15.2120

25978
S/539/60/000/031/011/014
E071/E135

AUTHORS: Yagodina, A.T., and Gorgoraki, Ye.A.

TITLE: The evolution of gas from a fluorine containing (barium-lithium) glass

PERIODICAL: Moscow. Khimiko-tekhnologicheskiy institut. Trudy, No.31, 1960. Issledovaniya v oblasti khimii i tekhnologii elektrovakuumnykh materialov. pp.70-75

TEXT: Barium-lithium glass No. 713 is used for the manufacture of bulbs of some electro-vacuum apparatus. A knowledge of the gas evolution from this glass during heat treatment is necessary for its degassing during the evacuation of the apparatus as well as for elucidating the possible effect of the gas evolved on the operation of the apparatus. For this reason the evolution of gas from the above glass on heating was investigated. The composition of the glass was as follows (wt.%): SiO_2 67.5; Al_2O_3 5.0; BaO 12.0; Na_2O 7.0; K_2O 7.0; Li_2O 0.6; F_2 0.9. The evolution of gas was followed by a fractional freezing out of the gases and vapours separated, so that the contents of water vapour, carbon dioxide, carbon monoxide, nitrogen, hydrogen and

The evolution of gas from a fluorine...

oxygen could be determined (carbon monoxide and hydrogen were preliminarily oxidised to carbon dioxide and water respectively and oxygen by the reaction with a tungsten wire). Glass specimens were used in the form of fine threads of 1 - 1.5 mm diameter. The separation of gas from the glass was investigated at temperatures of 100, 150, 200, 300, 400 and 500 °C, at a vacuo of about 10^{-6} mm Hg. The evolution of fluorine was tested separately by heating a crushed glass sample in a stream of air which was subsequently passed into a solution of zirconium quinizarin (for the colorimetric determination of fluorine). The evolution of fluorine was tested at temperatures from 300 to 1000 °C at intervals of 100 °C. It was found that on heating glass number 713 fluorine containing gas is evolved; maximum evolution takes place at a temperature close to that at which the apparatus made from this glass is sealed. In view of the above, some experimental tubes were made from this glass and for comparison from glass 3C-4 (ZS-4) which is widely used in the manufacture of electrovacuum apparatus with an oxide cathode. A cathode coated with (Ba, Sr)CO_3 was used for the experimental tubes. After sealing the stems into the experimental bulbs it

The evolution of gas from a fluorine...

was noticed that in tubes made from glass number 713 some dark spots were present on the open part of the cathode; there were no such spots in tubes made from the glass ZS-4. On subsequent determination of the emission characteristics, the emission of tubes made from glass number 713 was practically absent. The above mentioned black spots were found to be parts of the pure base metal of the cathode from which the carbonate coating was lost. Therefore, the decrease in the emission was caused by a considerable decrease in the surface area of the emitting coating. It is concluded that: 1) On heating glass number 713, water vapour, carbon dioxide, carbon monoxide, oxygen and nitrogen are evolved. The change with temperature of the amount of the gas evolved passes through a maximum at 150 °C (0.083 cm^3 per 100 cm^2 of the surface of the glass) and a minimum at 300 °C (0.028 cm^3 per 100 cm^2 of the surface). 2) The main proportion of the gas evolved consists of water vapour and carbon dioxide. 3) The results obtained agree with the evolution of gas from glasses of usual composition. 4) At 400 °C fluorine compounds are evolved in addition to the above gases. The amount of fluorine increases with increasing temperature; at about 800 °C the increment of

The evolution of gas from a fluorine...E071/E135

fluoride compounds evolved is proportional to a temperature increase (0.006 mg fluorine per one g of glass·100 °C).
5) The presence of fluorine in the gas evolved during the stage of sealing-in the stem causes dusting off of the oxide coating which in turn lowers the emission in tubes made from glass number 713.
There are 6 figures and 2 references: 1 Soviet and 1 English.
The English language reference reads as follows:
Ref.1: H.A. Shadduck, A. Van Zee. J. Am. Ceramic Soc., V.25, No.3, 69 (1942).

Card 4/4

ACCESSION NR: AP4033404 S/0076/64/038/003/0720/072 3

AUTHORS: Yefimov, Ye.A.; Yerusalimchik, I.G.; Gorgoraki, Ye.I.

TITLE: Reduction of persulfate ion at a germanium cathode

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 3, 1964, 720-723

TOPIC TAGS: persulfate ion reduction, reduction, germanium cathode, n type germanium, p type germanium

ABSTRACT: Because of the contradictory data given in literature on the reduction of persulfate ion at germanium electrode, this reaction was studied by the potentiostatic polarization method and also via measurement of the photoelectric potential of the germanium electrode. This permitted determination of the magnitude of the curvature of the energy zone on the electrode surface. Electrodes from n- and p-type germanium with specific resistance of 1.5 ohm. Xcm and diffusion zone length of 0.7 mm were used. A series of experiments were made on a degenerated polycrystalline germanium which does not have semiconductor properties and also using electrodes with p-n transition. Polarization curves taken in 0.001 N $K_2S_2O_8$

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ACCESSION NR: AP4033404

on n- and p-degenerated germanium show that under given conditions the reduction process does not depend on the type of electrode conductivity and that a limiting current of ~0.35 ma/cm^2 is the normal specific current for persulfate ion diffusion to the electrode surface. The addition of an indifferent electrolyte to a 0.001 N $K_2S_2O_8$ solution decreases somewhat the inhibition of the electrochemical reaction. It was found that on increasing the concentration of the persulfate ion in the solution, the polarization curves for p- and n-germanium begin to differ and at φ = -0.2 to -0.1v the rate of reaction increases. With increase of the concentration of ammonium persulfate the photopotential increases and the value of the potential of flat zone is displaced toward the more positive potentials for the p- and n-type germanium electrodes. Since the polarization curves on n- and p-germanium corresponds to potentials -0.2 to -0.1v, it was concluded that in both cases the reaction is inhibited. On the basis of the lack of limiting current for the diffusion of electrons in the p-germanium it was assumed that electrons of the valence zone take part in the reduction or the rate of surface recombination at the electrolyte boundary is very great. Orig. art. has: 7 figures.

Card 2/3

ACCESSION NR: AP4033404

ASSOCIATION: None

SUBMITTED: 14Jan63 DATE ACQ: 15May64 ENCL: 00

SUB CODE: GC, GP NR REF SOV: 003 OTHER: 002

Card 3/3

YEFIMOV, Yu.A.; YERUSALIMCHIK, I.G.; GORGORAKI, Ye.I.

Photoelectric potential of a germanium electrode as dependent on the composition and concentration of electrolytes. Zhur. fiz. khim. 38 no.5:1271-1273 My '64. (MIRA 18:12)

1. Submitted Jan. 14, 1963.

GORGORIDZE, D. B. Aug. 53

USSR/Physics - X-Ray Applications

"Micro-Radiography and X-Ray Microscopy," D. B. Gorgoridze

Usp Fiz Nauk, Vol 50, No. 4, pp 577-599

Reviews modern contact X-Ray and electron X-Ray microscopy and projective and diffractive X-Ray microscopy, tested by author and associates E. Ye. Vaynshteyn and M. N. Flerova (ZhETF 10, Nos 1, 3, 8(1940), and later "appropriated" by Americans (Barret, Metals techn. 12 (1945); W. J. Bond and Andrus, Amer Mineral 37 (1952). Cites 43 references, mostly non-Soviet.

263 T 104

GORGOTS, V.S. [Horhots, V.S.]

Participation of some animal organs in the formation of cholesterol esters [with summary in English]. Ukr.biokhim.zhur. 30 no.5:714-723 '58 (MIRA 11:12)

1. Kafedra biokhimii Kazakhskogo meditsinskogo instituta, Alma-Ata.
(CHOLESTEROL ESTERS)
(LIVER)
(INTESTINES)

GORGOTSKIY, G., inzh.-pilot

Is a second pilot for an An-2 airplane needed? Grazhd. av. 21 no.6
23 Je '64. (MIRA 17:8)

GORGULA, V.I.

A.I.Markushevich's duality principle. Dokl. AN SSSR 143 no.2:269-271 Mr '62. (MIRA 15:3)

1. Chernovitskiy gosudarstvennyy universitet. Predstavleno akademikom V.I.Smirnovym.
(Topology)

GORGUNKEL', D. M., LEYBOVA, I. M., BALGODETELEVA, V. A., PISKAREVA, YE. V., AVTONOMOVA, L. V., KONONENKO, A. P., DERKACH, V. S., SAVCHENKO, A. M., SOGOMONOV, S. A., MUKHINA, N. A.

"The study of antitumor substances formed by microorganisms."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

GO[illegible], Arpad

Interpretation of an inertia experiment. Fiz szemle 15 no.1: 27-31 Ja '65.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000616210014-0"

GORIACHENKOVA, Ye.V. (Moskva)

Recent data on L-tryptophan metabolism in the biosynthesis of nicotinic acid. Usp.biol.khim. 2:97-114 '54. (MIRA 12:12)

(NICOTINIC ACID, metabolism, biosynthesis, role of L-tryptophan)
(TRYPTOPHAN, metabolism, in nicotinic acid biosynthesis)

GORIACHEV, F.

From the experience of drying lumber with superheated steam from the moisture evaporating from drying wood. p. 21.

BIOLOGICHESKAIA NAUKA; SELSKOMU I LESNOMU KHOZIAISTVU. (Latvijas PSR Zinatnu akademija. Biologijas Zinatnu nodala) Riga, Latvia, No. 15, 1958. In Russian.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Uncla.

GORLACZKOWSKI, WLODZIMIERZ

Sad. (Wyd. 8., popr. i uzup.) Warszawa, Panstwowe Wydawn. Rolnicze i Lesne, 1956. 181 p. (Biblioteka rolnika) (The orchard. 8th ed., enl. and rev.)
DA Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

GORIAGA A.N.

BELOV, K.P.; GORIAGA, A.N.; MIKHAL'CHUK, N.I.

Magnetization of ferromagnetic substances near the Curie point. Zhur. eksp. i teor.fiz. 24 no.6:708-713 Je '53. (MLRA 7:10)
(Ferromagnetism)

ORIANI, A.N., PACHES, J., BELOV, K.P.

"Thermodynamic; Investigation of Ferromagnetics Substances in the Region of the Curie Temperature" Moscow

Conference on Physics of Magnetic Phenomena,
May 1956, Sverdlovsk, USSR

GORIAN, V. I.

Author: Gorian, V. I.

Title: The measurement of the consumption of air, gas and liquid in petroleum industry. (Izmerenie raskhoda vozduKha, gazov i zhidkostei v neftianoi promyshelnnosti (po metodu sUzheniia). 261 p.

City: Moscow
Publisher:
Publishers: State Printing House of Fuel Industry

Date: 1947

Available: Library of Congress

Source: Monthly List of Russian Accessions, V. 3, No. 12, page 640

SHVATSGORN, B.M., podpolkovnik meditsinskoy sluzhby, kandidat meditsinskikh nauk; GORIBERIDZE, A.Ya., podpolkovnik meditsinskoy sluzhby

Prophylaxis of postoperative suppuration. Voen.-med. zhur. no.5: 75-76 My '56. (MLRA 9:9)

(SURGERY, ASEPTIC AND ANTISEPTIC)

CA GORICAN, K.

1

Application of the thiocyanate method for determining traces of iron in the presence of an excess of nickel. Karel Gorišan and Jiří Malík (Charles Univ., Prague, Czech.). *Chem. Listy* **45**, 55–7(1951).—The color reaction of Fe^{III} and SCN^- has been found suitable for the *colorimetric detn. of Fe* in the presence of considerable Ni. The absorption max. of $Fe(SCN)_3$ lies at 4850 A., the absorption min. of $Ni(SCN)_2$ at 5250 A. The optimum concns. of HNO_3 and SCN^- are 0.1 *M* and 0.5 *M*, resp. The reaction is carried out in 50% aq. acetone and the extinction measured after 1 hr. with the filter 525 mμ. From 50 to 500 g. of Fe per 100 ml. was detd. even in the presence of 10,000 times as much Ni.

M. Hudlický

1951

GORICAR, Joze, redni univerzitetni profesor

Dynamics of scientific civilization. Automatika 4 no.4:225-226 '63.

KOCHERGIN, P.; GORICHENSKIY, I.M.; TYUKAYEV, A.A., uchitel'

Letters from the readers. Geog. v shkole 24 no. 1:69-70 Ja-F '61.
(MIRA 14:2)

1. Kurskiy pedagogicheskiy institut (for Kochergin). 2. Starshiy prepodavatel' Kazanskogo sel'skokhozyaystvennogo instituta (for Gorichenskiy). 3. Belasovskaya shkola Gor'kovskoy oblasti (for Tyukayev).
(Geography--Study and teaching)

112-57-8-17130

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8, p 172 (USSR)

AUTHOR: Gorichev, B. M.

TITLE: A Calling Device in the "Dispatcher Report" Telemeter System (Vyzyvnoye ustroystvo teleizmeritel'noy sistemy "Dispetcherskiy raport")

PERIODICAL: Sb. statey nauch.-stud. o-va Mosk. energ. in-ta (Collection of Articles of the Scientific Student Society, the Moscow Power-Engineering Institute), 1956, Nr 9, pp 35-49

ABSTRACT: A city automatic telephone office is used as a link in the "Dispatcher Report" telemetering system that operates on the calling principle. As the number of controlled facilities increases, automatic calling becomes necessary because it facilitates the work of the dispatcher. Specifications for such an automatic device are formulated, and several versions of possible sollutions are examined. A ferromagnetic film-type calling device registers in a preset sequence the pulse combinations of telephone numbers of called facilities on a magnetic film, which is later passed through a reproducing device having a relay output, this latter device sending call signals into the automatic telephone

Card 1/2

A Calling Device in the "Dispatcher Report" Telemeter System

office line. In a photoelectric version, the telephone numbers of the called facilities are recorded as a number of black dots lying in a straight line on a white sheet of paper. A photoelectric readout head travels along the dots and takes reading of the signs. An electronic amplifier turns the phototube signals into current pulses, which energize a relay whose contacts are connected into the telephone line. A relay version of the calling device is described in detail. Simplified and complete circuit diagrams are presented, and a few time relationships are indicated. The calling device includes 4 selectors and 9 telephone-type relays. Telephone numbers of the called facilities are set on a panel by a simple switching operation. The device can handle calls to fifty subscribers. In case of a wrong connection or busy signal on the subscriber's line, the call is repeated after a preset time. The device can also be applied in other cases where a large number of the same subscribers are often called.

S.V.A.

GORICHEV G.G

GORICHEV, G.G. (Krasnodar)

Apparatus for setting fragments of a fractured forearm under x-ray control. Ortop.travm. i protez. no.2:63-64 Mr-Ap '55 (MLRA 8:10)

(FOREARM,
fractures,
surg. reposition under x-ray control, appr.)
(FRACTURES,
forearm, surg.reposition under x-ray control, appar.)
(ROENTGENOGRAPHY, appratus and instruments
fract.forearm reposition appar. under x-ray control)

VOROB'YEV, V.; GORICHEV, N.

Role of money in the future development of the national economy of the U.S.S.R. Den.i kred. 18 no.8:3-13 Ag '60. (MIRA 13:7)
(Money)

BACHURIN, A.V.; MARGOLIN, N.S.; KONDRASHV, D.D.; GORICHEV, N.V.; ROGOVSKIY, N.I.; YAMPOL'SKIY, M.A.; TYUKOV, V.S.; ROTSHTEYN, L.A.; GERASHCHENKO, V.S.; KOTOV, V.F.; BAZAROVA, G.V., red.; PORTYANNIKOV, N.S., red.; GERASIMOVA, Ye.S., tekhn. red.

[Commodity and monetary relations during the period of transition to communism] Tovarno-denezhnye otnoshcheniia v period perekhoda k kommunizmu. Moskva, Ekonomizdat, 1963. 386 p. (MIRA 16:5)

(Economics)

S/185/61/006/002/011/020
D210/D304

AUTHORS: Hertsriken, S.D., Novykov, M.M., Horid'ko, M.Ya.

TITLE: Determining the density of dislocation formed during the deformation of armco iron and magnesium

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 2, 1961, 229 - 232

TEXT: The authors describe an experimental study of dislocation in armco iron and magnesium as a function of deformation and temperature, using the volume change as a measure of the density of dislocation. The experimental method used is the same as that described in an earlier publication. The curves obtained for a heating rate of 60 deg/hr. are similar to such curves for other metals. For iron there are two noticeable steps in the curves at about 300 -350°C and 450-550°C. If dislocations are assumed to take place after the second step, then vacancies should appear between the first and the second step. Dislocated atoms or vacancy pairs should take place at the first step. A table shows the mean volume changes,
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Determining the density of ...

the calculated dislocation densities N and the number of vacancies Δn. The number of vacancies was calculated from the formula $\Delta n = (d_o N_o/A)(\Delta V/V)$ where N_o - Avogadro's number; A - atomic weight; d_o - density. The dislocation density was calculated from the formula $N = (d_o N_o/A)^{2/3}/(\Delta U/U)$. The authors point out that the high value of volume change, 10^{-3}, as well as the hardness of the annealed sample, 126 kg/mm^2, indicates that their iron specimen may not have been very pure. For magnesium it was found that the hardness - deformation curve had a similar shape to volume change - deformation curve. There are 5 figures, 1 table and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Kyyivs'kyy ordena Lenina derzhavnyy universytet im. T.H. Shevchenka (Kiyev Order of Lenin State University)

SUBMITTED: July 2, 1960

Card 2/2

L 4380-66 EWT(m)/EWA(h)
ACCESSION NR: AP5020259 UR/0367/65/002/001/0097/0108

23
22
B

AUTHOR: Gorichev, P. A.; P'yanov, I. I.

TITLE: The angular distribution of fragments

SOURCE: Yadernaya fizika, v. 2, no. 1, 1965, 97-108

TOPIC TAGS: angular distribution, fission product, nuclear fission, spectral energy distribution

ABSTRACT: The authors use evaporation theory to derive formulas connecting energy and the angular distributions of fragments and making it possible to find any angular characteristic of the fragments from the energy spectrum. They are derived on the basis of a model in which the fragments are emitted isotropically by excited moving nuclei. It is shown that, in the framework of this model, it is possible to describe consistently both the angular and energy distribution of the fragments by means of three parameters (the temperature, the Coulomb barrier, and the longitudinal velocity of the nucleus emitting the fragment. This is based on the fact that at any energy of the incident particle it is always possible to choose a moving coordinate frame in which fragment emission is isotropic. The various calculated angular characteristics of the fragments are compared extensively with the experi-

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ACCESSION NR: AP5020259

mental data for initial-particle energies in the region from 76 Mev to 25 Bev. The agreement between the calculated and experimental values is satisfactory in nearly all cases. This suggests that such an approach may explain the fragmentation process. "The authors thank Professor N. A. Perfilov and all the members of his laboratory for a useful and thorough discussion." Orig. art. has: 7 figures, 8 formulas, and 2 tables.

ASSOCIATION: None

SUBMITTED: 16Nov64 ENCL: 00 SUB CODE: NP

NR REF SOV: 011 OTHER: 014

Card 2/2

GORICHEV, P.A.; LOZHKIN, O.V.; PERFILOV, N.A.

Charge distribution of fragments in nuclear fission. Zhur.eksp.i teor. fiz. 41 no.1:35-37 Jl '61. (MIRA 14:7)

1. Radiyevyy institut AN SSSR.
(Nuclear fission)

GORICHEV, P.A., LOZHKIN, O.V.; PERFILOV, N.A.

Theory of the nuclear structure and manifesting itself in interactions between high-energy particles and nuclei. Izv. AN SSSR. Ser. fiz. 26 no.9:1190-1193 MIRA 15:9)
(Nuclear reactions) (Nuclear models)

S/120/63/000/001/005/072
E032/E314

AUTHORS: Gorichev, P.A. and Lozhkin, O.V.

TITLE: Identification of short-range multiply-charged particles in nuclear emulsions

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 30 - 35

TEXT: A semi-automatic photometric apparatus is described for determination of the width of particle tracks in nuclear emulsions. It is suitable, for example, for studies involving the identification of low-energy fission products having ranges equal to a few tens of microns. The image of the track can be inspected visually and by means of a beam-splitter, so that the image is also thrown onto a vibrating mirror which throws it onto a slit in front of a photomultiplier. As the track image is swept past the photomultiplier slit, the latter produces a current pulse whose width is proportional to the width of the track. The pulse is then converted into a square pulse which, in turn, is converted into standard pulses whose number is proportional to the length of the square pulse. These pulses are then counted up by a scaler.
Card 1/2

Identification of ....

In order to evaluate the possibilities of the device a study was made of B_5^{11} and C_6^{12} tracks in PR emulsions which were sensitive to relativistic particles. It was found that the integral width, equal to the area under the width-versus-length curve, was a suitable parameter for differentiating between the particles. Complete differentiation between B_5^{11} and C_6^{12} is achieved for integral widths in excess of 40 μ. There are 8 figures.

ASSOCIATION: Radiyevyy institut AN SSSR (Radium Institute of the AS USSR)

SUBMITTED: March 31, 1962

ACCESSION NR: AP4013023 S/0166/63/000/006/0040/0045

AUTHORS: Azimov, S. A.; Gorichev, P. A.; Karimova, R.

TITLE: Multiple production of fragments at incident proton energies of 660 Mev

SOURCE: AN UzSSR. Izv. Seriya fiziko-matematicheskikh nauk, no. 6, 1963, 40-45

TOPIC TAGS: proton, fragment production, neutron energy, phasotron, solid angle distribution, angular correlation, alpha particle

ABSTRACT: A study has been made to verify the hypothesis concerning the simultaneous incidence of two slow (Group I) and noncoincident slow and fast fragments (Group II) in a single split at 660 Mev incident proton energies. The angular correlations between two fragments on the incident neutron energies were also determined. A P-9ch emulsified lamina was irradiated by the exit beam of phasotron OIYaI protons at 660 Mev energies. The characteristics of 184 splits with double fragments and 17 with triples are tabulated. The cosine of the solid angle distribution between two fragments for group I and group II is represented graphically. In group II no intermediate dispersion angle exists for the two fragments. For group II $N_\varphi = 2$, the slow and fast fragment pair has an angular distribution similar to that of a single fragment. No change is observed in the angular

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ACCESSION NR: AP4013023

correlation with change in the incident proton energy. Figure 1 (see Enclosure) shows the angular distribution between fragment track projections and the residual nucleus for N_φ = 1; group I, N_φ = 2; and group II, N_φ = 2. Also included are the energy spectra of the α-particles in the split for 0, 1, and 2 fragment production. The results show that simultaneous ejection of two or three fragments is entirely probable. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Institut yadernoy fiziki AN UzSSR (Institute of Nuclear Physics, AN UzSSR)

SUBMITTED: 07Aug63 DATE ACQ: 03Mar64 ENCL: 01

SUB CODE: GP NO REF SOV: 006 OTHER: 001

Card 2/3

ACCESSION NR: AP4009095 S/0056/63/045/006/1784/1792

AUTHORS: Gorichev, P. A.; Lozhkin, O. V.; Perfilov, N. A.

TITLE: Short range products of nuclear disintegrations induced by 2--9 GeV protons

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963, 1784-1792

TOPIC TAGS: nuclear disintegrations, emulsion nuclei, heavy emulsion nuclei, short range particles, silver fission, bromine fission, fission cross section, disintegration cross section

ABSTRACT: In an attempt to reconcile the highly contradictory experimental data concerning the dependence of the fission cross section of silver on the incident-proton energy, a thorough analysis is made of the heavy emulsion nuclei disintegrations in which two short range particles are emitted mainly in opposite directions. It

Card 1/[illegible]

ACCESSION NR: AP4009095

is shown that disintegrations of this type should be classified not as fission of the silver or bromine nuclei of the emulsion, but as disintegrations in which a short range fragment and a recoil nucleus are formed. The upper limit of the cross section for the fission of Ag and Br nuclei by 2--9 GeV protons is about 1 millibarn. "The authors take the opportunity to thank the administration of the High-energy Laboratory of the Ob*yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research) for making available the proton synchrotron of the Institute, to the nuclear emulsion scanning group of the High-energy Laboratory, headed by S. I. Lyubomilov and V. I. Baranov, for scanning the emulsions employed. The authors are particularly grateful to S. I. Lyubomilov for help and direct participation in the irradiation of the pellicle stacks. The authors are grateful to Yu. P. Yakovlev of the Radievy*y institut (Radium Institute) for a discussion of some of the problems touched upon here." Orig. art. has: 7 figures and 2 tables.

Card 2/3

ACCESSION NR: AP4038420 S/0166/64/000/002/0050/0055

AUTHOR: Azimov, S. A.; Gorichev, P. A.; Karimova, R.; Lozhkin, O. V.

TITLE: Angular correlations of fragments and light particles with residual nuclei

SOURCE: AN UzSSR. Izv. Seriya fiziko-matematicheskikh nauk, no. 2, 1964, 50-55

TOPIC TAGS: fragmentation, light particle, residual nuclei, heavy fragment, proton, alpha particle, neutron, nuclear cascade, nucleon

ABSTRACT: The problem of associating large numbers of nucleons into comparatively stable substructures in heavy nuclei aroused interest in the mechanism of fragmentation. The main purpose was to find more precise data for the calculation of angular correlations and to obtain additional experimental facts with respect to the angular correlation of fragments in which $Z \geq 4$, α-particles and protons containing residual nuclei. By using P-9 ch type of nuclear emulsion, the authors were able to measure the characteristics of recoil nuclei in great detail. The mean sensitivity of this emulsion is $E_{pmax} \approx 40$ MeV. The emulsion was bombarded with 660 MeV protons using the phasotrone at the laboratory of nuclear problems OIYaI. The authors concluded that the fact that angular correlation of protons and α-particles with residual

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ACCESSION NR: AP4038420

nuclei does not depend on the number of fragments in spallation, corresponds to the assertion that these particles are ejected by a nucleus which has already ejected fragments. Therefore, a spallation in which the ejection of a fragment precedes the evaporation of light particles, is most probable. The fragmentation cross-section increases sharply during a transition to protons with an energy of several hecto-electron volts, i.e., when the probability of formation of highly excited nuclear conditions increases. Orig. art. has: 5 figures.

ASSOCIATION: Institut yadernoy fiziki AN UzSSR (Institute of Nuclear Physics AN UzSSR)

SUBMITTED: 24Aug64 DATE ACQ: 26Jun64 ENCL: 00

SUB CODE: NP NO REF SOV: 007 OTHER: 001

Card 2/2

ACCESSION NR: AP4026814 S/0077/64/009/002/0083/0090

AUTHORS: Gorichev, P. A.; Loshkin, O. V.; Perfilov, N. A.

TITLE: Discrimination of heavy ions in nuclear emulsions

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 9, no. 2, 1964, 83-90

TOPIC TAGS: nuclear emulsion, heavy ion, residual path, microcrystal, electron, single charge ion, ion track

ABSTRACT: To discriminate tracks of single charge ions as a function of various emulsion properties the P. G. Bizzeti-M. Della Corte model (Nuovo Cimento, 1959, 11, 317) has been used and refined specifically for the "path-energy" of a δ - electron. The discrimination coefficient D for B^{10} and C^{12} ions in various emulsions (e.g., $P9_o$ - 0.06μ, $P9_{ch}$ - 0.06μ, PR - 0.08μ, etc.) as a function of R, the residual ion path, has been determined experimentally and compared to calculations from the general expression ..... $\lambda(z, \beta, d, s) = \lambda_0(d) + 2x(z, \beta, d, s)$, where λ - track width, z - charge, β - speed, d - mean microcrystal diameter of emulsions, s - sensitivity, and $\lambda_0 = (1 + g)d$. Comparing D for B^{10} - C^{12} in $P9_o$, $P9_{ch}$, PR, and

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ACCESSION NR: AP4026814

PR+6% TEA for a given AgBr microcrystal dimension, D increases with increase in emulsion sensitivity. These results yield optimum conditions for superior ion discrimination in the region z = 3 to 10 by showing maximum sensitivity and minimum emulsion microcrystal dimensions. Also included are experimental curves of E(x) - energy versus x for C^{12} ions with several residual ion paths in PR emulsion. Orig. art. has: 8 figures and 6 equations.

ASSOCIATION: none

SUBMITTED: 28Sep62 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: NP NO REF SOV: 001 OTHER: 007

Card 2/2

ACCESSION NR: AP4037605 S/0056/64/046/005/1897/1898

AUTHORS: Gorichev, P. A.; Lozhkin, O. V.; Perfilov, N. A.

TITLE: Angular correlation between multiply produced fragments

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1897-1898

TOPIC TAGS: nuclear fission, fission product, fission cross section, nuclear emulsion, angular distribution, fission fragment

ABSTRACT: The purpose of the work was to plot the excitation function of the multiple emission of fragments and to analyze in detail the angular correlation between a pair of fragments in one disintegration. The results were obtained by exposing emulsions in the internal beam of the OIYaI proton synchrotron to protons of energy 2, 3, 6, and 9 GeV. The absolute values of the cross sections were determined in terms of the cross sections for star production in the emulsion. The angular correlation was shown to be dependent on whe-

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ACCESSION NR: AP4037605

ther the two produced fragments are fast or slow. In stars having one fast and one slow fragment, all the angles between the fragments had equal probability, in stars with two slow fragments a clear cut angular correlation was observed at 120--140°, and in stars with two fast fragments there was a preference for angles less than 90°. The analysis has shown that to explain the angular correlation in the group with two slow fragments it is necessary to assume that the fragment pairs produce simultaneously in one disintegration. Orig. art. has: 2 figures.

ASSOCIATION: None

SUBMITTED: 21Jun63 DATE ACQ: 09Jun64 ENCL: 02

SUB CODE: NP NR REF SOV: 000 OTHER: 000

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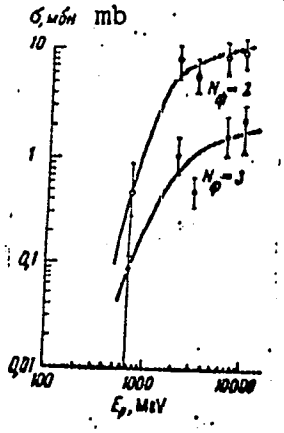
ACCESSION NR: AP4037605

ENCLOSURE: 01



Dependence of the cross section for the production of disintegrations with two and three fragments, on the energy of the incident protons; N_Φ - number of fragments in one disintegration.

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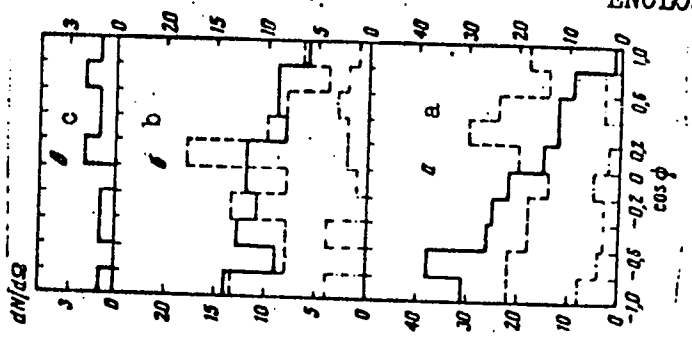
ACCESSION NR: AP4037605

ENCLOSURE: 02



Distribution of the cosines of the angles between two fragments in one disintegration. Continuous curve - experiment; dashed-curve - calculation for fragments with $Z \geq 4$; dash-dot line - for disintegrations containing at least one Li fragment. a - group I, $1.5 \leq E_f \leq 5$; b - group II, $E_{f1} \geq 5$, $1.5 \leq E_{f2} < 5$; c - group III, $E_f \geq 5$ (energies in MeV/nuc.)

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L 13949-65 EWT(m)/T/EWA(m)-2 ASD(p)-3/AFWL/ESD(t)/SSD
ACCESSION NR: AP4047882 S/0056/64/047/004/1178/1184

AUTHORS: Gayevski, V.; Gorichev, P. A.; Perfilov, N. A.

TITLE: Formation of Li-8 fragments in the interaction between 9-GeV protons and lead nuclei

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 4, 1964, 1178-1184

TOPIC TAGS: lead, lithium, fission fragment, proton nucleus interaction, nuclear emulsion

ABSTRACT: The sandwich method (emulsion stock with interleaved metal foils) is used to investigate the production probability, energy spectrum, and angular distribution of Li^8 fragments produced in the disintegration of lead nuclei by 9-GeV protons. The need for this investigation was brought about by some contradictions in the results of the emulsion method, which does not permit observation

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of the disintegration of a single type of nucleus. The emulsion stock was irradiated in the internal beam of the OIYaI synchrotron which was parallel to the plane of the emulsion. The NIKFI-K emulsion dimensions were 10 x 10 x 0.04 cm, with the foil thickness being 18 microns. The proton flux in the emulsion was 3×10^6 cm^{-2}. The stars containing the Li^8 fragments were detected by area scanning from the side of the emulsion [illegible] geometrical corrections of the test results are briefly explained. Comparison of the experimental data with the predictions of the evaporation theory show that best agreement is obtained with a temperature T = 14.9 MeV and a Coulomb barrier [illegible]. It is concluded that an attempt to explain the energy and angular distributions of the Li^8 fragments with the aid of the evaporation theory leads to one of two conclusions: 1) the [illegible] but must be refined (primarily with respect to the dependence of the nuclear temperature and the magnitude of the Coulomb barrier on the excitation energy); 2) evaporation theory cannot be used to describe

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the formation of most Li^8 fragments. "The authors thank the directors of the high energy laboratory of OIYaI for affording the opportunity to irradiate the emulsion chambers in the synchrotron, and to the emulsion processing group of the high energy laboratory led by S. I. Lyubomilov and V. I. Baranov for processing the emulsions. The author is particularly grateful to P. I. [illegible] and direct participation in the emulsion [illegible] able discussions were held with our colleagues [illegible] tute O. V. Lozhkin and I. I. P'yanov. [illegible] and 1 table.

ASSOCIATION: None

SUBMITTED: 26Mar64 ENCL: 00

SUB CODE: NP NR REF SOV: 002 OTHER: 010

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Angular distributions of fragments. Izd. fiz. 2 no.1:97-108 Jl '65.
(MIRA 18:8)